characterized in that, to limit the displacement speed of the rotor, at least one restrictor for the hydraulic medium is provided between hydraulic piston arrangement and hydraulic system.

Owing to the fact that a restrictor is interposed according to the invention, the hydraulic medium displaced by the individual pistons is first of all directed through the restrictor, a factor which advantageously leads to a reduction in the kinetic energy and to a comparatively slow displacement of the rotor. The loads acting on the bearing body can thus be reduced, whereby the risk of overloading is minimized. Even at a maximum force acting on the rotor, kinetic energy can be sufficiently dissipated by the restrictor arranged between hydraulic piston arrangement and hydraulic system, so that overloading of the bearing as a result of dynamic forces of the rotor is prevented. Reliable mounting of the rotor of the gas turbine is thus ensured even during any possible occurrence of high dynamic thrusts.

The restrictor is arranged in the bearing body. Even in the unusual event of a line fracture in the hydraulic system, the hydraulic medium can only flow off quickly to a limited extent, which results in a low and thus non-damaging displacement speed of the rotor. The bearing, rotor and gas turbine are thus protected against defects which would be caused by an excessive displacement speed of the rotor. In this case, the restrictors are formed by flow constrictions.

In an advantageous development, the bearing can additionally have at least one flow-control valve, designed as a restrictor, between hydraulic piston arrangement and hydraulic system. This protection likewise increases the safety of the entire system and in addition makes it possible for the flow velocity of the

hydraulic medium and thus the displacement speed of the rotor to be set.

Patent claims

1. A bearing for axially mounting a rotor (8) of a gas turbine, having a rotationally fixed bearing body (2) which has a hydraulic piston arrangement (3, 4) for axially displacing the rotor (8) from a first operating position into a second operating position, and having a hydraulic system (9) fluidically connected to the hydraulic piston arrangement (3, 4), characterized in that, to limit the displacement speed of the rotor, at least one restrictor arranged in the bearing body (2) and intended for the hydraulic medium is provided between hydraulic piston arrangement (3, 4) and hydraulic system (9).

2. The bearing (1) as claimed in claim 1, characterized in that the restrictor (26, 27) is formed by flow constrictions arranged in the bearing body (2) without a line being interposed.

3. The bearing (1) as claimed in either of claims 1 and 2, characterized in that the hydraulic piston arrangement (3, 4) has a plurality of pistons (23) arranged in corresponding respective piston chambers (22).

4. The bearing (1) as claimed in one of claims 1 to 3, characterized in that the piston chambers (22) are bores of cylindrical design.

5. The bearing (1) as claimed in one of the preceding claims, characterized in that the piston chambers (22) are fluidically connected to one another.

6. The bearing (1) as claimed in one of the preceding claims, characterized in that the hydraulic piston arrangement (3, 4) is of annular design.

7. The bearing (1) as claimed in one of the preceding claims, characterized in that two hydraulic piston arrangements (3, 4) formed separately from one another are provided and are arranged opposite one another on the bearing body (2).

8. The bearing (1) as claimed in one of the preceding claims, characterized in that the two hydraulic piston arrangements (3, 4) are fluidically connected to one another.

9. A device as claimed in one of the preceding claims, characterized in that the two hydraulic piston arrangements are fluidically connected to one another with a 4/2-way directional control valve (19) interposed.

10. A gas turbine having a bearing (1) as claimed in one of the preceding claims.